Treatment of the Mentally Retarded

The Role of the Local Physician

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■ *Misconceptions and failure to keep abreast of current knowledge handicap the family physician in treating mentally retarded persons. Also, physicians in general apparently would rather treat acute than chronic conditions.*

Multiple causes of mental retardation indicate the condition is a symptom, not a disease entity. Every patient can be helped in some degree. The treatment must always be carried out under medical supervision, whether educational, habilitational, psychological or purely the giving of medicine.

Particularly should the physician be concerned with prenatal care, metabolic disorders, increasing numbers of the "battered child syndrome," genetic counseling, psychotherapy and counseling for parent as well as child. The physician must be aware of the gaps in comprehensive services to the retardate and assist in the closing of them.

FOR MANY YEARS we have read and heard the refrain, "The mentally retarded can be helped." Yet I believe too many physicians do not believe it.

Explanation for this phenomenon is varied and speculative but some of the reasons should be advanced. Perhaps the greatest single reason for *not* accepting that the retardate can be helped is lack of knowledge, especially of knowledge that has developed over the last ten years.

Other reasons include our medical training which drilled into us, that once brain cells are destroyed, they are never replaced. Some of us recall that other cells can take over functions of the damaged or destroyed cells. But retraining is terribly slow, and most physicians like to see quick results. Often, therefore, an impatience is felt with the chronic case.

Lastly, I think that most physicians who received, not training, but exposure to the field of mental retardation developed opinions of "hopelessness" and "incurability" and "institutionalization for care and custody" from visiting a state residential facility ten or more years ago. At that time money granted by the taxpayers to run those facilities was at a bare subsistence level.

Have we made big strides in the field of dealing with mental retardation in the past ten years? *Can* the retardate really be treated? Isn't this something for the professional educator rather than a physician?

Mental retardation is a symptom of an underlying disease. It is manifested by below-average general intellectual functioning originating during the developmental period and associated with deficient maturation, learning ability or social adjustment. The diseases which may result in mental deficiency may be grouped under the following headings: Infections, intoxications, traumas, metabolic growth and nutritional disorders, new growths, unknown prenatal influences including genetic causes, known brain disorders of unknown cause and functional disorders of known and unknown cause.

We who specialize in this field do not claim that every person who is retarded will be able to assume an independent existence or will make a remarkable recovery. But we do state that every mentally retarded person *can* be helped in *some* fashion.

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The help may not always be primarily medical—but it should always be carried out under medical supervision or direction regardless of whether the basic plan is educational, habilitational or psychological.

As we physicians are clearly aware, there exist all gradations of retardation, among all ages from infancy to senility, resulting from dozens and dozens of diseases.

It is not likely that the physician in the community will play as large a role in the treatment of the mildly or moderately retarded who is free of emotional or physical symptoms, as will the special education teacher. It is not likely that the family physician would play so large a role in the well-adjusted adult retardate enrolled in a sheltered workshop or vocational training situation, as would the rehabilitation therapist or social worker. And it is not likely that he would play a great role in dealing with the retardate with a minor emotional problem that might well be referred to the clinical psychologist.

What are some of the conditions which do require primary medical consideration or treatment? Dr. John D. Thompson, chairman of the Department of Obstetrics and Gynecology of the School of Medicine at Emory University in Georgia, wrote:

". . . the most forgotten, neglected individual in our society today is the fetus. Nobody loves a fetus; nobody feels compassion for a fetus—except the expectant mother who feels a soft flutter of movement beneath her ribs, and possibly the obstetrician whose hands probe for the outline of a small body cushioned within its mother. Our love usually begins at birth when we first see the newborn child. The fetuses—well, they just grow . . . Only sometimes they don't do this very well. Sometimes the heart is in the wrong place; or the feet grow crooked and bent; or the brain never gets quite finished. We don't see the fetus suffer and struggle against intrauterine anoxia or infection or Rh incompatibility or prolonged labor. We only see the crippled or the retarded child after birth and feel love and compassion and sorrow for the child, which we should. But we also should have these feelings for the fetus." For if we did, perhaps with our present-day knowledge we could prevent that sorrow.

We talk about building space vehicles to visit the moon. We talk about the miniaturization of components necessary for such a feat. But man, who develops from a tiny egg controlled by a complex biochemical assortment of amino acids which build the chromosomes has achieved a miniaturization that is almost unbelievable. There are an estimated 1 billion, 700 million chemical "words" laid down in the nucleus of the egg cell that gave the code or direction to develop each of us. These 1,700,000,000 words could be spread on one two-hundredth of the head of an ordinary pin in a layer only one ten-millionth of an inch thick.

Molecular biology has taught us how information is copied and translated into the thousands of kinds of protein molecules contained in each of us and how mutations may occasionally occur. We still must learn how the central nervous system stores information, reassociates it, and gives it forth again spontaneously or upon command.

There are some conditions in which our knowledge is extensive. We do know in some areas about molecular specifications that say how the brain will develop. Phenylketonuria and a few other metabolic disorders are examples. We know about specific chromosomal abnormalities such as mongolism, now preferably called Downs' syndrome.

We are much more aware of environmental factors that may interfere with normal brain development such as German measles in the pregnant mother during the first trimester; or the use of drugs such as thalidomide which leads to phocomelia, cavernous angioma and duodenal stenosis in the offspring; or the potential over-use of x-ray radiation to "see the developing fetus"; or syphilis and toxoplasmosis in the gravid mother; and psychological damage as a result of social, educational and cultural limitations among many of our people.

Let us consider other injuries which may result in brain damage and retardation and in which the physician plays a preventive or treatment role—the poisons or intoxications which may involve the fetus even before birth such as the Rh incompatibility which may lead to a bilirubin encephalopathy with deposits in the basal ganglia which bring about the conditions of kernicterus and erythroblastosis fetalis; reactions to immunizing agents such as tetanus and other toxoids; lead intoxication from chewing on painted toys; maternal dystocias, toxemias of pregnancy, prematurity, mechanical injuries at birth, cerebral anoxia as a result of delays in birth or perhaps related to anesthetic agents; post-natal brain traumas, and others.

A special word should be said about a potentially preventable condition most recently labeled "the syndrome of the battered child." You would be surprised, or perhaps not, at the frequency in retarded children, of old skull fractures and of healed fractures of long bones. Etiology unknown! Perhaps the parents relate that Johnny slipped off the bed onto the floor (which, by the way, often has a soft rug)—hardly a plausible explanation of multiple fractures. A year or so ago one pediatrician in a San Joaquin Valley town was reported to have said that at one hospital serving a community of about a hundred thousand population, 25 cases of "battered child syndrome" had been dealt with in five months.

The fascinating metabolic disorders are perhaps more widely cited as causes of mental retardation. That less than 3 per cent of cases at the Porterville State Hospital fall into this category may not be widely known. These include phenylketonuria, galactosemia, cerebral lipoidosis (Tay-Sach's disease) and the increasing number of related disorders of fat, protein and carbohydrate metabolism.

Other, fortunately rare, conditions leading to retardation include the neoplastic conditions such as tuberous sclerosis, cerebral angiomatosis and neurofibromatosis. Let us not forget the metabolic disorders of gargoylism (lipochondrodystrophy), hypothyroidism (cretinism) and arachnodactyly.

Coming to be one of the commonest conditions associated with mental retardation is Downs' syndrome, or mongolism. Some 15 per cent of cases at Porterville are so diagnosed. Today, with the advances in the study of cell structures including the chromosome itself, karyograms have revealed dozens of variations in the location, dislocation and translocation of these chains of amino acids. In mongolism we have discovered two types—the common trisomy 21, which is a non-dysjunction process leading to an extra or 47th chromosome, and the less common (estimated 5 per cent) translocation type of number 21 to numbers 13 through 16, resulting in 46 chromosomes but not the normal 46. Mongolism of this latter type is believed to be hereditary. The former has given no evidence of hereditary characteristics. Do you begin to see the implication for the physician through genetic counseling in this condition and others of like nature?

The leukodystrophies are receiving intense study. When we learn the cause of diffuse sclerosis of the brain, whether labeled Krabbe's, Pelizaeus-Merzbacher, Greenfield's, Scholz's, or Schilder's—then, perhaps, can we prevent.

Some 30 per cent of our cases are believed to be functionally (presumed psychologically) determined. These include cultural-familial retardation, environmental deprivation, emotional disturbance and psychosis or autism. As great a proportion remains in the unknown category, with neurological and/or growth pathologic states readily seen but etiologically elusive.

Perhaps we have the answers to our question: "What is the role of the local physician in the treatment of the mentally retarded? As it was so beautifully worded in the report of the task force on prevention, clinical services and residential care issued by former President Kennedy's Panel on Mental Retardation, "The medical approach to the retarded . . . should not differ in principle from the medical approach to the normal . . ."

Specifically, the local physician serves as a bridge between the family and the retardate and the many consultants and clinics required for proper assessment of the capacities of the person. He must be responsible for the whole person. He must participate in the planning for the child and at times aid in the execution of the plans. He must not deny his responsibility for counseling parents or surrender it to psychologists, social workers, educators or nurses, even though such specialists are of great value in assisting the family and the doctor.

The physician may be able to see to it that decided improvement is brought about in the environment in which children of a family are reared. He has a special role in genetic counseling. For example, in the case of mongolism, simply informing parents of the non-hereditary nature of the anomaly (if it is of the trisomic type) is certainly insufficient when the emotional problem caused by misconceptions are ignored. The family history must be discussed in detail and laboratory studies, especially karyograms, of all members of the family should be made. Such tangible evidence permits realistic education and comprehension.

Improved obstetrical care, with most careful record-keeping, may not only result in prevention of retardation but lead to future knowledge. Judicious use of hormones and immunizing agents is emphasized. Rh factor and serum bilirubin levels, phenylalanine levels and toxoplasmosis serologic studies should be performed as well as tests for syphilis and tuberculosis in pregnant women. Examination of buccal smears for chromatin bodies should be done routinely after delivery. Exchange blood transfusions may be given to the erythroblastotic child. Exposure of female children to German measles before they reach child-bearing age should be considered. The use of x-ray during pregnancy should be eliminated unless a most vital need is demonstrated. Determination well before birth of maternal dystocias (and use of cesarean section in appropriate cases) is important. Proper care of premature infants in a modern hospital having proper incubators is another step in prevention.

Physicians can help by giving thought and sustenance to such things as improved reporting procedures, with perhaps more involvement of the law enforcement agencies in the case of the suspected "battered child"; corrective operations for hydrocephalic children, for those with cardiac abnormality and for the orthopedically handicapped; attention to special handicaps of sight and hearing; and insistence upon dental care, which in the case of retarded persons frequently requires hospitalization and general anesthesia. I believe you would be surprised to learn how valuable the new electric toothbrush—how helpful is massage of the gums to prevent gingival hyperplasia in epileptic patients taking diphenylhydantoin (Dilantin®).

The local physician must be a psychotherapist—aware that perhaps most of the emotional problems in the retarded child are the reflection of treatable problems in the parents. Treatment of parents may, in turn, modify the symptoms in the child.

Menninger pointed out that one of the great tragedies is the lack of the specialist physicians to begin to do the job of meeting the needs of the retarded and mentally ill. We have roughly ten or eleven thousand physicians in psychiatry—not all of them psychiatrists. The family physician must take part in meeting the psyschological needs of the retardate and his family.

Pertinent is the following excerpt from the Task Force (Panel on Mental Retardation) report on Prevention, Clinical Services, and Residential Care: The physician "(1) . . . should know and keep up with the rapidly expanding specific methods and opportunities for preventing or ameliorating mental retardation. (2) In his practice or clinical and hospital responsibilities he should see to it that his knowledge is meticulously applied to all mothers, infants and children who come under his medical supervision—directly or indirectly. In this connection he should realize that he can't do the whole job alone and will need to call on a number of experts in related fields. (3) In his role as a health educator and as a leader in community health and medical services, he should be completely familiar with community facilities and services available for the overall management of his patients as well as others. He should also be aware of the gaps in services and should actively support the development and extension of the missing links."

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